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# SCIENCE

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## THE FORTHCOMING SITUATION IN AGRICULTURAL WORK—II<sup>1</sup>

ONE year ago, at the first meeting of Section M, it was my privilege to speak on some of the tendencies in the great public agricultural movements in the United States, particularly on the educational side, and to express my conviction that the processes set in motion by the Land-Grant Act and subsequent enactments are safeguarding the foundations of our democracy. I approached my subject mostly from the point of view of our present public-service or public-welfare institutions for agriculture; I said that I should discuss the other or non-public phases of the problem one year hence. And now, after twelve months of unrepentance, I come to resume my theme. In continuing the discussion I shall be obliged to reaffirm some of the positions that I urged a year ago.

It is now some seven years ago when I wrote in a book that there may be need of a kind of agricultural work that can best be done in an institution independent of direct state support and not at once responsible to popular will.<sup>2</sup> That statement, or its equivalent, had been made many times theretofore in public ways. I have never taken the privilege, however, to enlarge upon it to any degree: this opportunity is reserved for to-day.

Fortunate it is for us that our educational and to a large extent our civic and welfare work for agriculture have been founded on public funds, thereby committing the state to the necessity of furthering the interests of our basic industry and of

<sup>1</sup> Retiring vice-presidential address, Section M.

<sup>2</sup> "The Training of Farmers," page 225.

making it an active factor in the political establishment. Had all this chain of colleges of agriculture and experiment stations and the great range of extension work and the giving of expert advice been established on private gifts, they would have been philanthropies or at least concessions to a needy industry. The state has recognized the necessity to base itself on the earth, and the enterprise is generously supported.

This, then, is my starting point—that these state-maintained institutions which aim to safeguard and to develop the resources of the earth are essential to permanency in society and also to self-government. Having accepted this basis, we may now ask whether there is need for another set or kind of institutions dealing with the rural situation, or whether such a set would benefit or hinder the public establishments that are now so well developed.

Let me say at once that the field of such institutions, whether public, semi-public or private, is now well understood. The prophetic writings in this nature-field and this agriculture-field are of our own time and of the time just preceding us. The philosophy of the situation, in its great human bearings and in its governmental and social results, has been clearly projected. The fundamental statements have been made. The main forecasts are mostly recent. We are emerging from the generation of search for the underlying elements and of the prophecy for future action. We enter the generation of hopeful and constructive application. At last we begin to see the actual reshaping of country life.

#### THE PROBLEM OF OVER-ADMINISTRATION

As our philosophy begins now to shape itself into definite action, so do our colleges and experiment stations begin to take on an institutional character. With the pas-

sage of the Extension Act, the institutions become real parts in a national system. Administration is now the dominant note in them, whereas formerly the work and attainments of individual men gave them their distinction. In the nature of the case, the administrative forces will increase: the elements must be organized; it is easier and simpler to make plans of administration than to do good research work or superlative teaching. Persons of little training in productive work are now engaged in making plans of administration, a situation that is always dangerous.

It is of the first importance, both to the work itself and to the political democracy we represent, that we do not think of agricultural education and research primarily in terms of organization. In this country where we are all sovereigns and all politicians, it is the easiest thing to slip into political methods, not to say political practices, in education. We must be on our guard against the spiritless domination that is likely to arise in educational and investigational endeavor when it becomes formal, and be aware of those tendencies that confuse red-tape and obstructive duties with administration. An enterprise is not commendable merely because it is "regular" and smooth-running. It is a sad case if personality is ever subordinated to regularity. A man is always more important than a rule.

The tendency toward outside centralized administrative control is well seen in movements now under way in this country to eliminate duplication and conflict between public institutions in a given state by means of one board of control placed over all of them, or by one chancellorship administering all of them from a common office. If it is desirable to conserve the free action and the spirit of a teacher or an officer, as a

means of maintaining the essential forces in a free people without peasantry, so is it necessary also to safeguard the independence of the institution that holds the teachers. Every institution is entitled to its own life.

It would be a vast misfortune if all our state educational institutions were made to be uniform in procedure, even when they are of the same grade or rank. Diversity is the order of nature. We are now run wild in this country in the application of so-called efficiency systems to institutions and agencies that in the nature of their purpose ought to be of the spirit rather than of the letter. Often these systems do not really represent efficiency, but the effort of officers and clerks without either vision or discretion, and perhaps supercilious, to make all things uniform; and more time and money may be lost in this effort than is saved in the purchase of supplies or in the stoppage of the leaks. It is a serious case to deprive the responsible officer of an institution of the right to exercise his discretion.

It is a gross mistake to suppose that management systems usually applicable to a factory can be applied to a college or a university, or to an experiment station or a research laboratory, and for the very good reason that the products are wholly unlike,—manufactured goods in the one case, human souls and scientific truth in the other. So also are the methods of procedure unlike—time-work and a measurable output in the one case, study, reflection, mental recuperation, inspiration, soul-service in the other. The institutions must be allowed to become what they are intended to be.

We are face to face with a struggle to keep educational institutions free not so much from political control as from the deadening domination of fiscal offices. A

well-known professor in a college of agriculture writes me that his institution has now become so efficient that he loses one third of his time from all productive work; and another declares that frequently he spends an entire day in making reports that have no significance except to maintain a scheme of administration and which could be performed just as well by a ten-dollar clerk. All this means that we are in immediate danger of developing in our institutions a set of administrative officers, controlling affairs, who are separate in spirit from the real work of research and education. To this tendency add the present peril of similar despotism from state officers, and you have a slowly developing method of strangulation that may well cause alarm.

If you ask me how we are to avoid these duplications and conflicts between state institutions, then I reply that the remedy lies in the constitution of the institutions themselves and not in the method of governance. You can not bring together, by any means of overhead regulation, institutions that in themselves are inharmonious. You may allay the hostilities, by arbitrary regulation you may prevent duplication, but this is not a solution, but only an adjustment; and the arbitrary regulation of finances and accounts will inevitably in the end control the educational policies of the institutions, and will ultimately deprive them of independent free-spirited presidents and leaders. The danger lies in the future rather than in the present. The real remedy for such situations rests with the constitution or the legislature (or with bodies to which it delegates legislative authority) to define the purposes and the spheres of the institutions; with their charts before them, the institutions then undertake each its own voyage.

There is still another aspect to this unfortunate hostility between state institutions. It is the championship of the insti-

tution by alumni, in their organizations and elsewhere, and which may practically enforce the necessity of exterior regulation. The alumni loyalty is a fine spirit, much to be desired; but the first loyalty in the case of public-maintained institutions is to the state rather than to the college. The alumni attitude of the older eastern endowed colleges has been transferred bodily to state colleges, without discrimination and without realization of the fact that state relationships are involved. Herein lies one danger of alumni trustees in state institutions, although the alumni ought to make the best of advisers.

If we could get hold of the alumni bodies on the basis of good state policies rather than on the basis of blind partisanship, we should soon be able to solve most of our institutional conflicts, at the same time that we retain the needful support of the alumni of each one of them. We should then be free to make our institutions parts in a well-understood state program, and to allow each institution to work out most of its own problems. Undoubtedly some small duplications or perhaps even infringements would remain, but they would be devoid of hostility and have little power for evil, whereas the gains to come from free action would far outweigh any lack of conformity to an office or paper plan. It ought not to be difficult to make adjustments by means of conference if the underlying situation is properly established.

How to bring these alumni bodies to their senses is indeed a difficult problem. As these persons have been educated at state expense, so does the state have a right to ask service in return; and, if necessary, I should go so far as to give the alumni organizations legal standing and more or less state control. I feel, however, that the better result can be secured by processes of suasion. If a governor of a state, or the

presidents of the institutions, or a few leading spirits in the alumni associations were to make an appeal along these lines, the whole situation would probably right itself in the course of a few years. It is more important first to appeal to the alumni than to the legislature. We are in too great haste to eliminate these difficulties. We must remember that these situations are the results of long-continued conditions; the difficulties are chronic and ingrained; so will it require time to work them out. We are to undo the mischief by gradually reversing or at least revising the process, not by a broadside of regulatory legislation.

All these foregoing statements indicate the drift of the time in the direction of over-administration, coupled with more or less hasty legislative enactments to meet special troubles. The remedy does not lie wholly, and perhaps not even chiefly, within the establishments themselves; in fact, routine tends to multiply, and to extol itself as desirable on its own account. Reformation is peculiarly the work of outsiders.

The course of our legislation in the field of education in agriculture shows a gradual federalizing of it, beginning with practically entire freedom in the original Land-Grant Act. In the new Smith-Lever Act the remedy—if a remedy is needed—does not lie within itself. Cooperation is not a remedy: it is an adjustment, a method of procedure, and it works only when all the parties agree. If the Land-Grant Act had been written and applied on the same principle, we could not have had our existing colleges of agriculture.

#### ANOTHER KIND OF AGRICULTURAL WORK

Well, then, where is the external influence to be maintained? Where is it to arise? Primarily in the suggestions of a free people. But its continuous practise must come from institutions.

There may be need, also, of a kind of agricultural work that can best be done in an institution that is independent of direct state support, and that is not at once responsible to popular will.

The fuller statement, from which this sentence is a quotation, is this:

The teaching of agriculture of college and university grade ought not to be confined to colleges of agriculture. All universities at least, on their own account and for their own best development, will in time have departments of agriculture, if they are real universities, as much as they have departments of language or of engineering. They can not neglect any fundamental branches of learning.<sup>3</sup>

At an earlier date, I had written:

It is strange that private benevolence has not discovered that the founding of schools of agriculture is one of the very best means of serving mankind.<sup>4</sup>

As these statements seem not always to have meant the same to others as I thought they meant to me, I shall now enlarge on them; and thereby shall I both explain myself and make my application.

My primary contention at the moment is that the agricultural and rural subjects may be made a means of education, used as so-called culture studies, and that a knowledge of them on the part of a large proportion of the people, in their general bearings, is essential to training for citizenship. They therefore become by right a part of the content of a school and of a college course. If any institution essays to cover the field of higher education, and is free to do so under the terms of its charter or of its state relations, then agriculture can not be omitted. Of course no institution should admit agriculture into its curriculum until it is ready for the subject and can provide the necessary support, any more than it should admit Greek or economics until it is ready for the subject. To be ready for agriculture re-

quires much more than equipment and adequate funds: the institution, in its governing body and in its faculty, should come to the subject on the same educational basis as it comes to any other subject, prepared to give it opportunity and sympathetic consideration, and to make it in fact a worthy coordinate with other departments.

The agricultural work of which I here speak is to be a contribution to other courses and departments in a university. It might very well be a department in an arts course. Unfortunately, we think of agriculture in higher institutions of learning only as a very highly developed series of technical courses, maintained mostly on a semi-professional basis. This is properly the development in the land-grant colleges of agriculture; and in them, although the differentiation has gone very far, it will go still farther, for we must bring our rural situation up to its proper level. But in general and liberal-arts endowed universities, agriculture of another species may well be introduced, comparable with a department of a college rather than with a college entity itself. It need not provide "a course in agriculture," in the sense of a complete curriculum by itself, and it would not give a degree in agriculture. We can not expect all students desiring agriculture as part of a liberal education to matriculate in a college of agriculture.

The content of such teaching of agriculture would probably run strongly along the lines of the so-called humanities—along economics without being the customary economics, along civics without being the usual civics, along ethics without being speculative ethics, and always be founded on good sources of technical information touching the nature and processes of production, the values in rural life, knowledge of agricultural conditions, with frequent visits in rural communities and excursions

<sup>3</sup> "The Training of Farmers," p. 225, 1909.

<sup>4</sup> "The State and the Farmer," p. 166, 1908.

for special studies. Such an organization for agriculture would not need the extensive equipment of a college of agriculture, and not even a farm.

It will be observed that I speak of agriculture for endowed universities and colleges that are supposed to cover the field of liberal education. Whether agriculture of any kind should be taught in a state university in a commonwealth in which the land-grant college is separate, is a question of state policy. By the act of separating the institutions, the state practically sets boundaries to the university as well as to the land-grant college; it always remains, then, as I have already intimated, for the state itself, clearly to define the purposes and the functions. It is likewise a question of policy, internal in this case, as to whether even in a university carrying the land-grant work there should also be an arts course in agriculture.

I am convinced that we greatly need such departments of agriculture as are here suggested. The institutions need it on their own account, and we need it for the cause of education and to train our people for self-government. There is no such professorship of agriculture as this, so far as I know, in this country. The institutions are missing an opportunity.

My impression is that a first-class department of agriculture in a first-class university, with a living man at the head of it who has had naked-hand experience on the farm, would exercise a kind of influence in the subject and on the country that is now unvisioned, although much needed. I suspect that the judgment of such a department would have unusual weight with the public, being perhaps non-professional and free of propaganda and of governmental policies. I foresee students going from such teaching to the colleges of agriculture for more detailed and technical work; and I think I

foresee certain students going to such a department for reflective graduate study and for the privilege of acquaintance with a teacher who is not buried in organization.

The old-time college professor, giving himself personally to his students, with few assistants, provided a type of leadership and of influence of the highest value; he lived the life; he was content in his work. To this man add something of the activity of the working world, but without administration of great schemes and without a maze of paralyzing reports, returns and projects, and you have your perfect teacher.

This teacher would be in position to maintain poise. He need not be afraid of deliberation. He would be greatly satisfied to watch the procession go by. We need a certain number of these men who are not only good students, but who are so detached from plans and managements that they can keep our philosophy straight.

#### THE CHECK PLOTS

We very well know that we need outside enterprises and influences to correct the tendencies of government. Education and research in agriculture are tied up with governmental procedure.

I would not have you think that I am opposed to governmental supervision. I do not even raise the question of the advisability or the merits of enactments or policies, although ready to review the tendencies in certain practises; and I wish distinctly to give my voice for the meeting of the laws to their full and in a whole-hearted way. Regard for law and authority is as much a safeguard of a free people as is the necessity for individual action. I am not implying that things are going bad with us, or that any of the agricultural enterprise is suffering. On the contrary, I think that our governmental work in agriculture

is on the whole particularly good. I know many of the men in this line of governmental oversight, and how capable they are. I know that we must have regularized procedure and good organization. It is said that for the greater number of persons close supervision is necessary, to which we all agree; and yet it is surprising how quickly these persons respond to leadership.

I know, on the other hand, that it is possible for governments, or methods suggested by governmental necessities, to invade educational work where they are not needed. I fear that the days of much freedom and spontaneity in the work are more behind us than ahead of us. We naturally extend a method or a way of procedure throughout a system, as if uniformity were in itself an asset. The very expansiveness of the enterprises, the extent of funds involved, the vast size of the country, the numbers of students, the alertness of the people for solutions, all demand a complex method of administration and tend to immerse a man in the system. I do not see how it can be avoided. All the more is the necessity, therefore, for opportunities to those persons who wish to do a personal work and to express themselves—just themselves—in the doing it. All the more do we need the example of institutions which have policies wholly their own, to safeguard any future danger of too much regulation in the governmental side. One set would prove a powerful stimulus to the other as well as to exercise a natural control. I hope there will never be any need of outside suggestion to restrain persons in the public institutions who aspire to be governors, congressmen, and the like, who may be tempted to use their opportunities to that end, and who are thereby out of place in college and science work.

As the public work becomes more crys-

tallized and more official, as is of course inevitable, the colleges of agriculture will begin to lose their boldest men. We know that many men in government like to escape to institutions, as to universities: will they desire also, in time, to escape the institutions?

You must not think that I am here summoning the bogey-man of "politics," as a discouragement to institutions supported by the state. Quite the contrary: I have seen something of institutions; I fear the entrance of "politics" as much into the governance of other institutions as of state institutions, and perhaps even more so, seeing that it is not answerable to public correction. We are moving rather rapidly in these days away from star-chamber deals and partizan control and upheavals. But there remains the more dangerous because the more insidious formalizing of the daily work, regulating of hours, deadly conforming of editorial offices, employing of too many clerks and intermediaries, the gradual tying of the hands without any intention whatever that it shall be so, the piling up of paper duties. That is to say, the old-time fear of politics has now been superseded by the actual danger of impersonal interference in details and of machine routine. I am not so much afraid of "politics" as I am of the dead-levels.

The old separatism in agriculture is breaking up. The human forces are reshaping. New crystallizations are taking place before our eyes, rapidly. Many plans of cooperation and co-action, small and large, are much recommended. Now is the time to be careful that our rural life shall not be machine-made and over-organized.

#### THE FIELD FOR PRIVATE FOUNDATIONS

The land-grant colleges of agriculture are not to expect to hold exclusively the entire field of agriculture-education of the



higher grade, nor is it desirable that they should do so. They do not necessarily represent the last word in this field of public service. We must soon begin to think of another range.

Private philanthropy will find this inviting and useful field. Universities of many kinds will enter it as of their own domain. The land-grant institutions will not lose their influence and standing: on the contrary, they ought to begin to produce the leaders for the other development, and specially must they be prepared to accept the other institutions, when those institutions are really ready and worthy, and give them encouragement; and in particular must they not sit as censors.

These new developments being foreseen and I think inevitable, then a *modus vivendi* must be found in advance. The first desirability, as I have suggested, is an attitude of encouragement for all good effort in teaching and research; the next essential is a willingness on the part of the land-grant institutions to divide the field, or at least to share it, so far as they can do so and not surrender their legal or necessary rights or curtail their usefulness. No one would want these institutions restricted; in fact, this must not be, since they have been set aside to do a great work in a democracy.

The other institutions, those not teaching agriculture on the land-grant basis, should recognize that the public-maintained colleges are now established in their field, that this field belongs to them by law, that these colleges are doing their work nobly, and that the people will resent interference; and they must remember the fine disdain in which the colleges of agriculture have been held in times past. These other institutions should not attempt to duplicate the work and equipment of the land-grant colleges; they should enter fields of their own. The effort to secure state support for such institutions is a perversion; it introduces

the very element of competition and conflict that it is so necessary to avoid, and the institutions also thereby lose their special opportunity. Neither will these institutions, if they are wise, enter the field to secure advertisement for any university or any body, counting on the rising interest in agriculture; the land-grant colleges are fortunately too strong for such a purpose to gain much headway.

What these fields are, for the non-land-grant endowed institutions, may not be easy to forecast in detail; but if the institutions desire to find such a field, the danger of duplication, conflict and hostility will thereby be avoided. In fact, these other institutions can never acquire the place they ought to find and which they have a right to enter, by any movement of attack or of imitation. The example of the untrammelled spirit, which they ought to contribute to governmental enterprises, must of course be born in freedom and in great good will.

Already have we discussed the opportunity in a liberal-arts college or in a university for a department of agriculture. We may now consider what an endowed institution, established separately in the agricultural field, including horticulture, forestry, and other rural work, may undertake. There is opportunity and need in abundance in the training-school field, but we are not now considering this range. In the college and university range, it is probably not worth the while to undertake a new effort "to make farmers," although this particular fallacy seems to be very attractive to many men.

1. If the hypothetical institution is to engage in research, it had better not attempt to cover the field of agriculture, as the colleges of agriculture are obliged to cover it in order to answer the needs of the commonwealth; it had better confine itself to a problem or a set of closely related

problems, organizing carefully for the effort, equipping to the highest, securing the best investigators regardless of the salary cost and allowing them to give themselves unreservedly to the research, without extension work or propaganda. This kind of intensive investigation, long-continued, patiently pursued, not depending for support on popular will, not interfered with by endless extraneous records and reports of progress, not obliged to demonstrate the necessity for its existence, would have a far-reaching influence for good.

2. If the institution is designed only to enter extension work in agriculture, it had better cease before it begins. The public forces are already at the command of the national cooperative extension enterprises; these enterprises are founded on good investigational work and on the accumulation of experience in the regularly established institutions. Extension work should never be projected *in vacuo*.

3. If it is in teaching of the higher grade that the new separate institution would express itself, then it must find its place, if at all, by sheer commanding excellence. It will compete first of all with the land-grant college of its own state, if it is of comparable grade, and with similar institutions in forty-seven other states, not to mention those in the provinces of Canada; this will present at once a difficult situation. If it is of inferior grade, then it must recognize its place and not attempt to give a degree in agriculture, or otherwise to bring the educational standards in this new field, now being attained with much hard effort, into disrepute. I can imagine a very worthy private foundation on college and even on university grade, making its way continuously and successfully, but I should expect it to make best headway if it specialized rather than attempted to cover the whole field; the expense in staff and equip-

ment to occupy the entire field would be very heavy, and it is doubtful whether the extra expenditure, at this epoch, would be socially justifiable. This particular complete range or organization of college teaching seems to be peculiarly the province of the state to support; and the state is already deeply engaged in the enterprise. By combining good agricultural work of a restricted kind with other nature-work, not eliminating other cultural studies, an endowed institution could make for itself a very useful place.

4. Long have I felt that a new kind of institution for agriculture, of very high grade, will some day arise on private endowment. This will be a coordinating and leadership institution, teaching advanced and special students in some subjects, engaging in research, but in the main making its contribution as a place for conference, for consideration of the large civic and social relations of rural life, and as a voluntary meeting-place on common and neutral ground for all the forces that lie in the situation. The state colleges of agriculture are coordinate with each other, they draw support from the same classes of funds, they come to have a comity of equality, they are all restricted in their outlook or at least in their practise by their necessary connections. We may be sure that there are bounds beyond which they may not go in making opinion on certain lines of great public questions. Government can not lead them: it can only supervise and regulate them.

I think I see the necessity for better opportunities than the land-grant or other state-maintained institutions are likely to give the freest men. Where shall we place our prophets? Separately they may accomplish much, but backed by facilities and a broad institution they may accomplish much more. One institution founded with

sympathy and on statesmanship could occupy a great place, if any board of governors were wise enough to avoid the cranks. It certainly would avoid all red-tape and all routine-men and all perplexing alliances. We may well look to government to coordinate the fiscal business and to some extent the projects of the public institutions, but we can not expect it to bring together the spiritual elements that alone can make a movement or a people great. Spiritual forces are always spontaneous.

I want to see at least one broad foundation, separately placed, certainly not in Washington, highly endowed, that will attract the best spirits somewhat independently of the subjects that they teach, to enable these men and women to give of themselves in a composite faculty, and to represent the best leadership in statecraft and other subjects as related to agriculture and country life. We are so accustomed to the formally regular program of the existing college of agriculture that an outline like this may seem to be indefinite and to lack cohesion, but it is not so very different from the old idea of a university; in fact, it might be known as a university founded on the earth, on rural life, with its students mostly graduates and not very numerous, with a good nature-background and not top-heavy with technical equipment.

#### THE CONCLUSION OF THE WHOLE MATTER

My presentation is of four motives: (1) To extend the rural teaching, founded on agriculture, into general and liberal arts institutions, to the end that it may be made a means of culture, a force for training in citizenship, and a broadening influence in the institutions; (2) to indicate a way in which private endowments or enterprises of college and university grade may be hopefully made in agriculture; (3) to suggest

the need of non-governmental movements which shall introduce into this field the same balance and counter-balance of forces that is essential in other fields for the maintenance of government that arises from the people, for not even in a democracy should all education be state-maintained; (4) to conserve the independence and the opportunities of the boldest prophets.

Of these motives, the last one I consider to be much the most important, the necessity to provide a footing for at least a few men without official attachments, of superior qualifications, and with an outlook covering the entire field.

The historian will discover this present segment of time to have been remarkable for its attainments with the products in agriculture. It is an epoch of wonderful horses, record-breaking cows, magnificent bulls, impeccable fowls; an epoch of marvellous fruits of the land, and of vast projects of reclamation. But the temper of the time begins to run out to the human factors, to the worth of the people in all the localities, to the little movements here and there that arise like springs in a fertile field. We just begin to glimpse something beyond us, as yet undefined; and presently our thought will begin to run backward to discover who were the men far in the generations behind us who saw something of this field and what they said about it, and what have been the rills of influence that have made the present current. We shall look forward for leaders, and shall discover that although we have had major prophets, not yet have we had a national figure.

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Such questions as these that we have raised, and many more of wide reach, must be discussed somewhere before representative gatherings. Shall it be here or elsewhere? This company comprises members of the Association and adherents of Section

M. What shall be the field and the function of this body? Shall it be strictly professional and official? Or shall it represent our democratic spirit and our forecast, introducing the element of public policy and prophecy even into technical discussion, bringing together the men and women from all sides and expressing all the work and movements? Our work is well under way. The morning hours are passed and the day is well toward noon.

L. H. BAILEY

### UNIVERSITY REGISTRATION STATISTICS

THE registration returns for November 1, 1915, of thirty of the universities of the country will be found tabulated on a following page. These statistics show only the registration in the universities considered. There is no intention to convey the idea that these universities are the thirty largest universities in the country, nor that they are necessarily the leading institutions.

The largest gains in terms of student units, including the summer attendance, but making due allowance by deduction for the summer session students who returned for instruction in the fall, are registered by California (2,375), Pennsylvania (900), Minnesota (892), Chicago (837), Columbia (594), and Pittsburgh (594), New York University (514), Ohio State (508), Illinois (486), Missouri (483), Cornell (412), Iowa State (370), Michigan (365), Northwestern (336), Cincinnati (334), Western Reserve (302).

The University of California shows a large gain of 2,375 students; no other institution shows a gain of more than 1,000 as against four last year. However, sixteen institutions (listed above) show gains of more than 300 as against fourteen last year and ten the year before. The fourteen institutions last year were Columbia, California, Pittsburgh, Ohio State, Wisconsin, Harvard, New York University, Minnesota, Pennsylvania, Illinois, Nebraska, Cornell, Cincinnati, and Michigan. Of these Wisconsin, Harvard and

Nebraska are not included this year in the group, and Chicago, Missouri, Iowa State, Northwestern, and Western Reserve are included this year but were not last year.

Four institutions as against one last year show decreases in grand total attendance. They are Tulane, Washington University, Harvard and Princeton. Exclusive of summer sessions Western Reserve and Wisconsin show decreases, Washington University and Princeton not having summer sessions.

Omitting the enrollments in the summer session, the universities showing the largest gains for 1915 are Pennsylvania (916), Minnesota (739), Pittsburgh (594), Ohio State (502), New York University (438), Chicago (437), Illinois (374), California (363), Missouri (361), Cincinnati (334), Cornell (314), Michigan (299), Columbia (290), Nebraska (288), Harvard (274), Iowa State (255), Northwestern (208), Indiana (201). Eighteen show gains of more than 200 as against fourteen last year and twelve the year before last. Of the eighteen thirteen are in the west and far west and five are in the east. A similar list last year consisted of eight western and six eastern institutions.

According to the enrollment figures for 1915, the thirty institutions, inclusive of the summer sessions, rank as follows: Columbia (11,888), California (10,555), Chicago (7,968), Pennsylvania (7,404), Wisconsin (6,810), Michigan (6,684), New York University (6,656), Harvard (6,351), Cornell (6,351), Illinois (6,150), Ohio State (5,451), Minnesota (5,376), Northwestern (4,408), Syracuse (4,012), Missouri (3,868), Texas (3,572), Pittsburgh (3,569), Nebraska (3,356), Yale (3,303), Iowa State (3,138), Kansas (2,806), Cincinnati (2,524), Indiana (2,347), Tulane (2,160), Stanford (2,061), Western Reserve (1,825), Princeton (1,615), Johns Hopkins (1,586), Washington University (1,264), Virginia (1,008).

A comparison shows that the following eighteen universities hold the same relative positions (indicated by the numerals following the name) as was held last year. Columbia (1), California (2), Chicago (3), Cornell (9),